

Appl. No. 09/520,130
Amendment dated April 18, 2005
Reply to Office Action of November 16, 2004

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-46. (cancelled)

47. (currently amended) A bispecific antibody comprising a first polypeptide and a second polypeptide, ~~wherein the bispecific antibody comprising:~~

(a) the first polypeptide ~~which~~ comprises a first heavy chain variable domain, a first or second light chain variable domain each having three complementarity determining regions (CDRs) ~~CDR regions~~, wherein the first and second light chain variable domains have at least 98% amino acid sequence identity and only differ from one another at amino acid positions outside of the CDRs regions, and wherein a first binding domain is formed by the first heavy chain variable domain and the first or second light chain variable domain;

(b) the second polypeptide ~~which~~ comprises a second heavy chain variable domain, the first or the second light chain variable domain, wherein a second binding domain is formed by the second heavy chain variable domain and the first or second light chain variable domain, and wherein the first and second binding domains bind different antigens;

(c) the first and second polypeptides dimerize to form a bispecific antibody.

48. (previously presented) The bispecific antibody of claim 47, wherein the first polypeptide further comprises a first multimerization domain, and the second polypeptide further comprises a second multimerization domain, and wherein the first and second polypeptides dimerize by interaction of the first and second multimerization domains to form a bispecific antibody.

49. (previously presented) The bispecific antibody of claim 48, wherein the multimerization domains of the first and second polypeptide interact at an amino acid side chain protuberance of one of the first and second polypeptides and an amino acid side chain cavity of the other polypeptide.

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50. (previously presented) The bispecific antibody of claim 48, further comprising a non-naturally occurring disulfide bond between the first and second polypeptide.

51. (currently amended) The bispecific antibody of claim 50, wherein the multimerization domain is a C_H3 region of an antibody constant domain, and the non-naturally occurring disulfide bond is between the C_H3 multimerization domains of the first and second polypeptide.

52. (previously presented) A composition comprising the bispecific antibody of claim 47 and a carrier.

53. (previously presented) The bispecific antibody of claim 47, wherein the first and second light chain variable domains have identical amino acid sequences.

54. (currently amended) A bispecific antibody comprising a first polypeptide and a second polypeptide, wherein the bispecific antibody comprising:

(a) the first polypeptide ~~which~~ comprises a first heavy chain variable domain, a first multimerization domain, a light chain variable domain, and wherein a first binding domain is formed by the first heavy chain variable domain and said light chain variable domain;

(b) the second polypeptide ~~which~~ comprises a second heavy chain variable domain, a second multimerization domain, said light chain variable domain, wherein a second binding domain is formed by the second heavy chain variable domain and said light chain variable domain, and wherein the first and second binding domains bind different antigens;

(c) the first and second polypeptides dimerize by interaction of the first and second multimerization domain to form a bispecific antibody.

55. (previously presented) The bispecific antibody of claim 54, wherein the multimerization domains of the first and second polypeptide interact at an amino acid side chain

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protuberance of one of the first and second polypeptides and an amino acid side chain cavity of the other polypeptide.

56. (previously presented) The bispecific antibody of claim 54, further comprising a non-naturally occurring disulfide between the first and second polypeptides.

57. (currently amended) The bispecific antibody of claim 56, wherein the multimerization domain is a C_{H3} region of an antibody contact domain, and the non-naturally occurring disulfide bond is between the C_{H3} multimerization domains of the first and second polypeptide.

58. (previously presented) A composition comprising the bispecific antibody of claim 54 and a carrier.

59. (currently amended) A bispecific antibody comprising a first polypeptide and a second polypeptide, the bispecific antibody comprising:

(a) a common variable light chain variable domain that has three complementarity determining regions (CDRs) and at least 98% sequence identity to a first variable light chain domain of a first antibody and a second variable light chain domain of a second antibody, wherein the common light chain variable domain only differs from the first and second variable light chain domain at amino acid positions outside of the CDRs;

(b) the first polypeptide which comprises a first heavy chain variable domain from the first antibody and a first multimerization domain comprising a first C_{H3} domain;

(c) the second polypeptide which comprises a second heavy chain variable domain from the second antibody and a second multimerization domain comprising a second C_{H3} domain;

wherein a first binding domain comprises the first heavy chain variable domain and the common light chain variable domain and a second binding domain comprises the second heavy chain variable domain and the common light chain variable domain, and the first and second multimerization domains interact to form a bispecific antibody.

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60. (previously presented) The bispecific antibody of claim 59, wherein the common light chain domain has 100% sequence identity to the first and second variable light chain domain.

61. (previously presented) The bispecific antibody of claim 59, wherein the first multimerization domain has a protuberance and the second multimerization domain has a cavity and the first and second multimerization domains interact via fitting of the protuberance into the cavity.

62. (currently amended) The bispecific antibody of claim 61, further comprising an non-naturally occurring disulfide bond between the first and second ~~polypeptide~~ multimerization domain.

63. (previously presented) A composition comprising the bispecific antibody of claim 59 and a carrier.